BRIEFING ON CHIHUAHUAN DESERT NETWORK INVENTORY & MONITORING PROGRAM

Dated: 30 August 2005

FOR: Janet Wise
FROM: Dr. Hildy Reiser
SUBJECT: Briefing Materials for Bert Frost

Chihuahuan Desert Network Inventory & Monitoring Program

I. Summary of Accomplishments

A. Biological Inventories

Work on professional-level vertebrate and vascular plant inventories neared completion, with most studies completed and data entered on both NPSpecies and park ANCS+ databases. Studies completed include: (1) mammal surveys at Amistad National Recreation Area, Guadalupe Mountains National Park and the Rio Grande Wild and Scenic River, (2) the first comprehensive floristic survey of Amistad in decades, (3) bird surveys of winter grassland birds and high elevation breeding birds, (4) the first comprehensive survey of network park reptiles and amphibians in recent decades, (5) the first ever full survey of Rio Grande Wild and Scenic River mammals, and (6) a survey of fishes in Rio Grande Wild and Scenic River and Amistad National Recreation Area. Some of these fish data are being incorporated in a more comprehensive USGS program for Amistad National Recreation Area still in progress. One additional survey of riparian area birds is ongoing. Arrangements for the deposit of the collected materials in university museums and herbaria were made.

While these surveys added relatively few species to extant lists, the updated taxonomic information, each held to a uniform, scientific-level standard, together with the comprehensive, network-wide analysis, provide an important scientific increment and inducement to further research.

An important step toward developing appropriate biotic monitoring was funding for a new vegetation map of Guadalupe Mountains NP, and accuracy assessments of existing vegetation maps of Carlsbad Caverns NP and White Sands NM.

Increasing public interest in the Rio Grande Wild and Scenic River is exemplified by an article in the Texas Parks and Wildlife Magazine, *Canoeing the spring-fed waters of the Rio Grande's Lower Canyons* by E. Dan Klepper. The article features the work of a Chihuahuan Desert Network inventory principal investigator, Dr. James Mueller. Also, Dr. Mueller's work was earlier featured in an issue of the NPS publication Park Tips.

B. Vital Signs Monitoring

Despite limited funding the Chihuahuan Desert Network will have completed its Phase I monitoring report. Additional staff, the network Data Manager and a term Biological Technician was added to the program. Interviews were conducted with a number of staff at each park unit, which was followed by Vital Signs workshops conducted in all network parks. Initial ranking of vital signs was conducted via a web based interface on the network's intranet site. Conceptual ecological modeling discussions were also initiated with participation from scientists with the USDA Agricultural Research Service's Jornada Experimental Range, USDA-ARS Southwest Watershed Research Center, Texas Council on Environmental Quality, academicians and park staff. Data certification will also be completed for all vertebrate and vascular plant taxa before the end of September 2005 for the network parks including Rio Grande WSR.

The Chihuahuan Desert Network secured and moved into 900 square feet (84 m^2) of office space at New Mexico State University in Las Cruces. There is no charge for the initial year and relatively modest charges thereafter.

C. Water Quality Monitoring

Completion of the network's water quality assessment report provides a sound basis for moving ahead with water quality monitoring planning. Additionally, identification of park waters of special interest, together with a sound understanding of state water quality management processes, provides a basis for improved, more uniform park water quality management. States-based issues, such as involvement with the nomination of Outstanding Natural Resource Waters may now be addressed.

D. Additional Highlights

Funding was received from the NPS Intermountain Region International Conservation Program (IMRICO) for development of habitat and corridor suitability models as a test of landscape connectivity among CHDN parks. The focus of this project will be on Carlsbad Caverns NP, Guadalupe Mountains NP and surrounding lands and including a feasibility assessment for including corridors between Big Bend NP and the Area Protejida Maderas del Carmen, Coahuila, Mexico. Landscape connectivity was identified as an issue and potential vital sign in almost all of the network parks scoping meetings. A preproposal is currently being prepared for submittal to the Department of Defense Legacy Program which would allow for expansion of the IMRICO funded project to include White Sands National Monument and surrounding lands. Two additional proposals were submitted to the USGS Park Oriented Biological Support Program.

In addition, instructions and guidelines were developed for all the CHDN park museum curators for importing future voucher data to ANCS+. MOUs were developed for university museum long term storage of the collections. This was an important educational step, bringing the network parks to a high, uniform standard.

An Interagency Agreement was entered into with USGS for assistance with the Phase II Water Quality Monitoring Plan. Another Interagency Agreement was entered into with the USDA ARS Jornada Experimental Range for development of CHDN-specific terrestrial ecosystem conceptual models.

II. Staffing

CHDN Inventory & Monitoring Program Personnel
Hildy Reiser, Ph.D. - Network Program Director
Tom Richie – Data Manager
William Reid, Ph.D. (term) - Biologist
Yvette Garcia (term) – Biological Technician
Emily Buehler (seasonal) - Museum/Data Technician

Board of Directors
Todd Brindle – Chair (Superintendent-Fort Davis NHS)
John Benjamin (Superintendent-Carlsbad Caverns NP)
Alan Cox (Superintendent-Amistad NRA)
John H. King (Superintendent-Big Bend NP)
John Lujan (Superintendent-Guadalupe Mountains NP)
Cliff Spencer (Superintendent-White Sands NM)
Bruce Bingham, Ph.D. (IMR I&M Coordinator, *ex officio*)
Larry Norris, Ph.D. (Southwest Research Coordinator DSCESU, *ex officio*)
Hildy Reiser, Ph.D. (CHDN Network Program Director, *ex officio*)
Rick Slade (Chief, Education & Resource Management, *ex officio*)

Technical Committee
Rick Slade – Chair (Chief, Education & Resource Management-Amistad NRA)
Vidal Davila (Chief, Science & Resource Management-Big Bend NP)
Gopaul Noojibail (Chief, Resource Stewardship and Science-Carlsbad Caverns NP)
John Heiner (Chief of Interpretation-Fort Davis NHS)
Fred Armstrong (Natural Resources Program Manager-Guadalupe Mountains NP)
Diane White (Resource Program Manager -White Sands NM)
Bruce Bingham, Ph.D. (IMR I&M Coordinator, *ex officio*)
Larry Norris, Ph.D. (Southwest Research Coordinator DSCESU, *ex officio*)
Hildy Reiser, Ph.D. (CHDN Network Program Director, *ex officio*)

Non-Voting Technical Committee Participants
William Reid, Ph.D. (CHDN Biologist)
Tom Richie (CHDN Data Manager)
Raymond Skiles (Wildlife Biologist-Big Bend NP)
Joe Sirotnak (Botanist-Big Bend NP)
Jeff Bennett (Hydrologist-Big Bend NP)
Paul Burger (Hydrologist-Carlsbad Caverns NP)
Dale Pate (Cave Resources Specialist-Carlsbad Caverns NP)
Dave Roemer (Biologist/GIS-Carlsbad Caverns NP)

Renee West (Biologist-Carlsbad Caverns NP)
Gordon Bell (Physical Sciences Program Manager-Guadalupe Mountains NP)
Jan Wobbenhorst (Chief of Resource Management Division-Guadalupe Mountains NP)
Michael George (Air Resource Specialist-IMR)
Richard Gatewood (Regional Fire Ecologist-Big Bend NP)
Luis Florez (Exotic Plant Management Team Leader-EPMT for CHD & SOPL)

Key Contractors/Cooperators

Kelly Bryan, Fort Davis, Texas - Avian inventories of Big Bend NP and Guadalupe Mountains NP grassland birds, Guadalupe Mountains NP high elevation breeding birds, and Fort Davis riparian area birds.

Dr. Donald Caccamise (PI) and Dr. Jennifer Frey, New Mexico State University - Data Mining and Data Entry for the Chihuahuan Desert I&M Network and Development of a Vital Signs Monitoring Plan.

Matt Goode (PI) and Dave Prival (FI), University of Arizona - Herpetological surveys at all CHDN parks

Dr. Arthur Harris, University of Texas at El Paso, analysis of White Sands NM mammal species list.

Dr. Kris Havstad, Director, USDA ARS Jornada Experimental Range - Development of conceptual ecological models and assistance with protocol development.

Dr. G. F. "Rick" Huff, USGS WRD - Water quality monitoring planning.

Dr. Clyde Jones (PI) and Joel Brant (FI), Texas Tech University - Mammal surveys of the Guadalupe Mountains NP Sand Dunes.

Raymond Meyer, La Tierra, Inc., Las Cruces, NM - Avian inventory of riparian and wetland areas in CHDN parks.

Dr. Esteban Muldavin, University of New Mexico - Vegetation mapping and classification PI.

Dr. J. (Bruce) Moring, PI, USGS-BRD - Fish surveys in Rio Grande, Devil's and Pecos Rivers in Amistad NRA, Big Bend NP and Rio Grande WSR.

Dr. James Mueller (PI) now at Tarleton State University and Matt Bahm (FI), graduate from Sul Ross State University - Mammal surveys, Amistad NRA and Rio Grande WSR.

Jackie Poole, PI, Texas Department of Parks and Wildlife - Vascular plant inventory of Amistad NRA.

Steve West, Carlsbad, New Mexico - High elevation breeding bird survey of Carlsbad Caverns NP.

Mike Woolman, NMSU graduate student employed by Carlsbad Caverns NP as a seasonal Biological Technician – Assisted in the herpetological survey of Carlsbad Caverns NP.

Dr. Richard Worthington, University of Texas at El Paso, verification of park herbarium specimens at Carlsbad Caverns NP, Fort Davis NHS, Guadalupe Mountains NP, White Sands NM.

III. Budget Narrative

In FY05 the network received total available budget of $746,700. Of this, 22.1% was for

salaries, 73.4% cooperative agreements including Interagency Agreements (IA), 2.0% for operations and equipment, and 2.2% for travel :

- $225,700 from the NPS Servicewide I&M Program for Vital Signs Monitoring (available budget $224,900 following an $800 assessment)
- $73,000 from the NPS WRD for Water Quality Monitoring (available budget $71,700 following a $1,300 assessment)
- $450,100 from the NPS vegetation mapping program. .

Of the $296,600 total for Vital Signs and Water Quality Monitoring, 55.7% was used for salaries, 33.0% for cooperative agreements (including IA), 5.1% for operations and equipment, and 2.2% for travel.

IV. Vital Signs Planning Schedule
(schedule subject to change depending on level of out-year funding)

Phase I report – due 30 September 2005
Phase II report – due 30 September 2006
Phase III report (draft) – due 15 December 2007
Phase III report (final) – due 30 September 2008